Silene subciliata Robins. 2n=48. Louisiana. "Western Louisiana," *Dormon s.n.* (garden culture).

Silene virginica L. 2n=48. North Carolina. Wake County: 18 miles north of Raleigh, across the Neuse River, on State Highway 50, *Smith s.n.*

Species outside Continental North America

Lychnis wilfordii Maxim. 2n=24. Japan: Garden culture, *M. Ozawa s.n.;* garden culture, *Alpine Garden Society 1280.*

Petrocoptis pyrenaica Braun. 2n=24. Europe. Garden culture, *Museum of Natural History, Paris s.n.*

Silene keiskei Miq. 2n=24. Japan: Mt. Ho-o, *M. Ozawa s.n.*; Mt. Kitadake, *Ozawa s.n.*

Silene repens Patrin. var. latifolia Turcz. 2n=48. Japan: Garden culture, *Mrs. L. N. Roberson s.n.;* garden culture, *Epstein s.n.*

Silene struthioloides Gray. 2n=24. Hawaii. Hawaii: near the Kilauea Crater, Hawaii National Park, *Bryan s.n.*

Silene species. 2n=24. Nepal: Tegar, north of Mustang, *Sykes & Williams 8108*; Larjung, south of Tukucha, Kali Gandaki Valley, *Sykes & Williams 8178.*

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Kruckeberg, A. R. 1954. Chromosome numbers in Silene (Caryophyllaceae): I. Madroño 12:238–246.

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A NEW SPECIES OF ZINNIA FROM MEXICO

A. M. Torres

During the course of a cytotaxonomic study of the genus *Zinnia* (Compositae), plants started from seeds kindly provided by Dr. Jerzy Rzedowski of the Universidad Autónoma de San Luis Potosí, México, were cultivated in the greenhouses of Indiana University. One collection, when grown to maturity, proved to be a new species known thus far only from the area where the seeds were collected.

Zinnia citrea sp. nov. Planta perennis, cespitosa, ad 2 dm. alta; caulibus viridibus, strigosis; foliis oppositis, amplexicaulibus, uninervis, linearibus, ad 3.5 cm. longis, 0.8–1.9 mm. latis, sparse strigosis aut glabrescentibus, sparse glanduloso-punctatis; capitulis terminatibus in pedunculis 0.8–2.0 cm. longis, subhemisphaericis, 0.4 cm. latis 0.5 cm. altis; phyllariis oblongis, firme-gradatis, herbaceis, minuto-glanduliferis, apicibus obtusis, ciliatis; radiis ca. 7, chloreis oblongis, ad 0.8 cm. longis 0.5 cm. latis, sine tubo, in dorso viridis nervis, apicibus 0.3 lobis; achaeniis radiorum oblanceolatis, ad 4.2 mm. longis, tuberculatis, nigrescentibus, sine aristis; floribus disci ca. 22, tubis 3.1 mm. longis, lobis 1.4 mm.

longis, intus lobis lanuginosis, supra flavo-viridibus, infra viridibus; achaeniis disci oblanceolatis, compressis, ad 2.6 mm. longis, sparse ciliatis vel vere glabris, marginibus ciliatis, pappis 2 inaequalis aristatis; receptaculi paleis lanceolatis, scariosis, apicibus acutis minuto-dentatis, plus minusve viridibus; receptaculis convexis.

Plants perennial, cespitose, about 2 dm. high; stems green, strigose; leaves opposite, sheathing, one-nerved, linear, about 3.5 cm. long, 0.8–1.9 mm. wide, sparsely strigose or becoming glabrous, attenuate, sparsely glandular-punctate; heads terminal on peduncles 0.8–2.0 cm. long, subhemispherical, 0.4 cm. wide, 0.5 cm. high; phyllaries oblong, strongly graduated, herbaceous, apices obtuse, ciliate, minutely glandular; rays about 7, lemon-colored, oblong, about 0.8 cm. long, 0.5 cm. wide, tubeless, green-nerved on the back, apices 0–3 lobed; ray achenes oblanceolate, about 4.2 mm. long, tuberculate, becoming black, awnless; disk flowers about 22, the tube 3.1 mm. long, the lobes 1.4 mm. long, velvety on inner surface, yellow-green above, green below; achenes of the disk oblanceolate, compressed, 2.6 mm. long, sparsely ciliate or essentially glabrous, the margins ciliate, the pappus of 2 unequal awns; pales of the receptacle lanceolate, scarious, the apices acute, minutely dentate, more or less green; receptacle convex.

Type. Mexico. Seed collected near Santo Domingo, municipality of Guadalcazar, San Luis Potosí, on deep alluvial soil with *Prosopis*. Elev. 1200 m. Cultivated in greenhouse, Indiana University, 1959, *Torres 139* (IND).

Zinnia citrea is very closely allied morphologically, but entirely distinct from *Z. grandiflora* Nutt. and *Z. acerosa* (DC.) Gray (considered by the writer to include *Z. pumila* Gray). *Zinnia grandiflora* occurs in the southwestern United States as far north as Kansas, and in the Mexican states of Sonora, Chihuahua, Coahuila and Durango. *Zinnia acerosa* is found in the southern parts of Arizona and New Mexico, western Texas, and the adjacent portions of México as far south as Durango, Zacatecas and San Luis Potosí.

Some of the differences between the three species are indicated below.

	Z. citrea	*Z. acerosa*	*Z. grandiflora*
Number of leaf nerves	1	1	3
Ray color	lemon	white	yellow
Number of rays	5–7	4–6	3–6
Number of disk flowers	18–25	8–13	18–24
		n = 10	n = 21
Chromosome no.	n = 20	n = 19	2n = 42
		n = 20	

Compared with *Z. citrea*, the rays of *Z. grandiflora* are yellow, usually fewer and considerably larger; the disk is red or sometimes green, instead of yellowish; the leaves are wider and longer but quite variable; the somatic chromosome number is 42. Jackson (1959) has reported a gametic chromosome number is 21 and the somatic chromosome number

is 42. Jackson (1959) has reported a gametic chromosome number of 24 for *Z. grandiflora*. The rays of *Z. acerosa* are white (drying pale yellow), generally fewer, slightly larger and the disk is reddish. Populations having gametic chromosome numbers of 10, 19, and 20 have been found. Voucher herbarium specimens for the chromosome counts are deposited at Indiana University.

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A COMMENT ON COLD SUSCEPTIBILITY OF PONDEROSA AND JEFFREY PINES

Willis W. Wagener[1]

Dr. Haller's recent paper[2] on factors affecting the distribution of ponderosa and Jeffrey pines prompts a supplementary note concerning the comparative effects of low temperatures observed on the two species in northeastern California. In this region extensive mixed stands of the two occur, many of them above the 5,000-foot level, providing a convenient comparison of their reactions to environmental conditions for the geographical races represented there.

Dr. Haller considers that *Pinus jeffreyi* is more tolerant than *P. ponderosa* of extremes of low temperature and aridity, but he concludes that the differential limiting effect of low temperature must be exerted in the seedling stage or on young trees because mature trees of *P. ponderosa* at its upper altitudinal limit appear vigorous and show no evidence of stunting. My observations over the past 25 years, following periods of severe cold, fail to indicate any material difference between the two species in their ability to withstand extreme cold, either as young or mature trees.

In January 1937, California experienced two very cold periods, particularly east of the Sierra Nevada crest. The first of these was from January 8 to 10 and the second from January 20 to 25. The lowest temperature reported to the United States Weather Bureau for these periods in California was −45°F. at Boca, California, on January 20.

Early in February a belt of pronounced damage to pines and other vegetation became noticeable along the east face of the Sierra Nevada for almost its entire length. At the north end it was narrow, from 25 to

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[2] Haller, John R. Factors affecting the distribution of ponderosa and Jeffrey pines in California. Madroño 15:65–71. 1959.